Chapter Four

COORDINATION RESPONSIBILITIES

BUREAU OF DESIGN AND ENVIRONMENT MANUAL

Chapter Four
COORDINATION RESPONSIBILITIES

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Chapter Four
COORDINATION RESPONSIBILITIES

4-1 INTRODUCTION

Chapter 4 discusses the various coordination activities that occur during project development. The chapter identifies which functional unit within the Department is responsible for various project activities. Several other *Manual* chapters discuss project coordination within different contexts:

- Chapter 1 presents the responsibilities of selected functional units within IDOT's organization.
- Chapters 2 and 3 present project development networks for several project types that describe, sequentially, the project activities.
- Chapters 5, 6, and 7 discuss coordination with local governments, utilities, and railroads.
- Chapters 11 – 15 discuss coordination for several studies that may be prepared during Phase I.
- Chapter 19 discusses coordination with the public on project input and district coordination meetings.
- Chapter 22 discusses coordination during implementation of the environmental process.

This chapter has been prepared from the perspective of a the district. For the coordination discussion for Phase I (Section 4-2.01), the "project study group" is responsible for project implementation. For Phase II, the term "designer" is generic and refers to any project manager from the district; i.e., the designer is assumed to have responsibility for the indicated actions.

Chapter 4 presents a generic discussion of the approximate sequence of events that lead to the preparation of a set of construction plans, specifications, and cost estimate. Where applicable, it provides references to other *Manual* chapters.

4-2 FUNCTIONAL RESPONSIBILITIES

Project development typically requires the completion of many functional work tasks. This Section briefly identifies which unit(s) is responsible for the elements within each significant functional responsibility.

Section 4-2.01 summarizes the coordination responsibilities during the Phase I portion of project development. The remainder of Section 4-2 is primarily within the context of coordination responsibilities during the Phase II portion.

4-2.01 Phase I Coordination

Reference: Chapters 2, 3, 11, 12, and 19, and Part III

4-2.01(a) General

The project study group or a consultant usually prepares Phase I reports. For major projects addressed by Corridor, Feasibility Study, and Design Reports, the district requests design approval from the Project Development Unit in the Bureau of Design and Environment. Other projects will be discussed at coordination meetings and can be reviewed and approved at the district level.

4-2.01(b) Environment

The project study group must coordinate closely with the district Environment Unit. For projects involving an EA or EIS, the district Environment Unit must coordinate closely with the Environment Section within BDE throughout the development of the Phase I study to ensure that the project engineering analyses are consistent with the necessary project environmental analyses.

4-2.01(c) Public Involvement/Early Coordination

The project study group and district Environment Unit must coordinate during Phase I to fulfill the public involvement requirements and the early coordination requirements with other Department and governmental agencies. The Regional Engineer will determine if the project is to be developed using the principles of Context Sensitive Solutions (CSS), based on guidelines provided throughout the *BDE Manual*.

4-2.01(d) Governmental Coordination

The project study group must coordinate with the necessary Department, State, and Federal agencies to gather the necessary data for project evaluation (e.g., traffic, crashes, land-use plans, urban area transportation studies).

4-2.01(e) Engineering Coordination

The project study group must coordinate with the applicable Department units to perform the engineering analyses necessary for a Phase I level of study, including:

- hydrology/hydraulics (district Hydraulics Unit and/or the Bureau of Bridges and Structures),
- geotechnical and soils (district Geotechnical Unit),
- proposed structure sketches (Bureau of Bridges and Structures),
- utilities (district Project Support Section),
- detours (district Detour Committee),
- Highway Safety Improvement Program and crash trends (Bureau of Safety Engineering),
- local agencies (district Project Support Section),
- aerial surveys (Aerial Survey Section and district Survey Unit), and
- bicycle/pedestrian impacts (Bicycle and Pedestrian Coordinator).

4-2.02 Agreements

Reference: Chapters 5 through 7

1. The designer initiates action for the preparation of the following agreements:

    a. Utility — Agreements Unit or Project Support Section
    b. Railroads — Agreements Unit or Project Support Section
    c. Local — Agreements Unit or Project Support Section

2. Because agreements often require considerable time to prepare and process, especially railroad agreements, work should be initiated as early as possible.

4-2.03 Bridge Design

Reference: Chapter 39

1. The bridge design process is initiated during the Phase I study, and the Phase I report will incorporate information from the Bridge Condition Report prepared by the district Bridge Engineer or by a consultant designated by the district and approved by the Bureau of Bridges and Structures.

2. The designer must determine if bridge hydraulics are required for bridge design and initiate action.

3. The designer requests that TS&L drawings be prepared in Phase II by the Bureau of Bridges and Structures or by a consultant designated by the district for any structures located within the project limits. Base information should be collected and summarized as early as practical.

4. The roadway and bridge designers coordinate the approach work, including guardrail-to-bridge-rail transitions; the bridge designer performs any structural design based on the approved TS&L plan.

5. The Bureau of Bridges and Structures prepares all necessary PS&E elements for in-house designed structural items, including special provisions, quantities, and cost estimates. The Bureau of Bridges and Structures will incorporate final structure plans and special provisions into the final contract once the plans are submitted to the Central Office.

6. Minor work on existing bridges is incorporated into the plans by the roadway designer (e.g., minor deck repairs, patching); however, work must be submitted and approved by the Bureau of Bridges and Structures.

4-2.04 Bridge Deck Rehabilitation

Reference: Chapter 39

1. Other than minor repairs, bridge deck rehabilitation work is performed by the district or a consultant designated by the district and submitted to the Bureau of Bridges and Structures for approval.

2. The designer must coordinate with the District Bridge Maintenance Engineer.

4-2.05 Hydraulics

Reference: Chapters 39 and 40

1. The designer must coordinate work with the district Hydraulics Engineer and/or the Bureau of Bridges and Structures in the Central Office.

2. The designer will request maintenance and flood records for the location.

3. The designer and Hydraulic Engineer will decide the necessary surveying along the channel.

4-2.06 CADD Usage

Reference: Chapter 63

Except for very simple project designs, most projects will use CADD.

4-2.07 Commitment File

Reference: Chapters 11 and 12

1. This file is usually initiated during Phase I by the project study group and should be transferred to the designer when the designer receives the approved Phase I report.

2. This file may contain commitments to/for:

   - right-of-way;
   - cities, towns, villages, counties, or townships;
   - other agencies (e.g., State, Federal);
   - traffic operations;
   - driveways and entrances;
   - shared costs;
   - environmental issues; and
   - other issues requiring special attention.

3. The designer adds commitments to the file that were made during the project development.

4. The designer must document the transfer of this file to the district Bureau of Project Implementation.

4-2.08 Coordination with Bureau of Operations (Maintenance)

Reference: None

1. The project study group should contact the district Bureau of Operations early in the project development.

2. Operations should be involved in the development of the Phase I report (e.g., snow-drifting, drainage problems, pavement deterioration).

3. Operations should be invited to all patching surveys.

4. The designer should continuously coordinate with Operations during project study and design, especially for drainage facilities.

5. The designer should invite Operations to the Plan-in-Hand Field Inspection.

4-2.09 Field Surveys

Reference: *BDE Survey Manual*

1. Surveying is located in the Bureau of Programming in District 1 and in the Bureau of Program Development in all other districts.

2. The survey typically is requested by the designer during the development of the Phase I report, or topographic data may be obtained from available mapping.

3. The designer may need to request additional surveys for bridge hydraulics, roadway drainage, erosion potential, entrance information, location of utilities, etc.

4. The designer may need to schedule additional field checks to determine surveying needs.

4-2.10 Roadway Drainage

Reference: Chapter 40

1. Large and/or complex structures are designed by the Bureau of Bridges and Structures or consultants.

2. For hydraulic design or procedural questions, the district Hydraulics Engineer should be contacted initially.

3. The designer determines designs for open channels (ditches) and closed systems (storm sewers). The project study group must have identified a drainage outlet in a Phase I report for closed drainage systems.

4. The designer is required to determine drainage areas, rainfall intensities, and culvert design and must design all closed drainage systems.

5. Drainage areas greater than 625 acres (250 ha) should have been identified by the project study group in the Phase I report. On large projects, a preliminary drainage report is prepared and transferred to the designer.

6. Any drainage structure requiring a waterway opening greater than 7.5 ft^2 (0.7 m^2) should be sized by the district Hydraulics Engineer. The type and design of a pipe or box culvert will be determined by the designer using the IDOT *Culvert Manual*. Multiple-box culverts, bridges, and three-sided structures will be designed by the Bureau of Bridges and Structures or consultants.

7. Reference the Department's *Culvert Manual* and *Drainage Manual* for more information.

4-2.11 Geotechnical Investigations and Reports

Reference: None

1. The designer requests soil characteristics for pavement designs.

2. A Geotechnical Report should be completed in the planning stage; if not, the designer may need to request one from the district Geotechnical Unit.

3. Borings may be required for new pavements, bridges, box culverts, wingwalls, retaining walls, high-mast lighting, and deep storm sewers. Contact the district Geotechnical Unit to schedule borings.

4. The district Geotechnical Unit performs the following:

   - prepares the Soils Report (e.g., determines maximum fill and cut slopes, provides drainage recommendations for soils, determines the areas for removal of unsuitable materials);
   - performs simple pavement testing;
   - determines special materials to be used and provides assistance for special provisions;
   - determines when the Bureau of Bridges and Structures should be involved in the design of retaining walls and other types of walls; and
   - provides input on project schedules based on the expected availability of materials.

5. The Bureau of Materials and Physical Research:

   - determines layer coefficients for special pavement designs,
   - performs complex pavement and soil tests, and
   - provides special assistance as needed.

6. See *Geotechnical Manual* for more information.

4-2.12 Patching Survey

Reference: Chapter 53

1. The designer will need to conduct a patching survey on pavement rehabilitation projects.

2. The designer should coordinate the survey with maintenance and construction personnel.

3. Usually, two patching surveys are conducted:

- the first in Phase I to determine the preliminary scope of pavement work; and
- the second near the end of the design phase to determine contract quantities.

4-2.13 Pavement Rehabilitation and Preservation

Reference: Chapters 52 and 53

1. These are established by IDOT policy.

2. The designer must adhere to policy. However, if the designer determines that policy is not applicable, the designer can request a variance from BDE.

4-2.14 Pavement Design

Reference: Chapter 54

1. The designer submits the required pavement information to the district Pavement Design Engineer.

2. The district Pavement Design Engineer reviews and submits alternative designs to BDE.

3. The designer ensures that the approved pavement design is placed into the construction plans on the typical sections.

4-2.15 Utilities Coordination

Reference: Chapter 6

1. The designer coordinates work with the Project Support Section.

2. The designer contacts the Project Support Section to determine the potential involvement with utility companies.

3. The designer provides preliminary plans to the Project Support Section, who then forwards these to the affected utility companies for markup and return to the designer.

4. The designer shows the location of all known utilities existing on the plans.

5. The designer identifies the possible locations of conflicts due to the proposed improvement.

6. The designer works with the Project Support Section to resolve any conflicts.

4-2.16 Railroad Involvement

Reference: Chapter 7

1. Any formal contact with railroad companies is accomplished through the Agreements Unit in BDE. Where a district Railroad Unit exists, informal contact can be made with a railroad to obtain preliminary information.

2. Railroad agreements usually require 18 to 24 months to process. Start this process early.

3. When work is performed by railroad forces, an Agreement is required. Some work included in the highway plans on railroad right-of-way and/or to railroad facilities may also require an agreement.

4. Where a contractor must work on the railroad right-of-way, railroad insurance is required. The designer must include a special provision and pay items with the plans that requires this insurance.

4-2.17 Public Transportation Involvement

Reference: Chapters 55 and 58

1. A construction project may affect the location of bus turnouts or turnarounds or may involve commuter trains.

2. If a conflict appears unavoidable, the designer should coordinate with local public transportation agencies and school districts.

3. The designer must determine how the Traffic Control Plan will affect public transportation (e.g., detours). They need to inform their ridership of revised routes.

4. Bicycle routes to public transportation facilities and bike storage facilities must be considered in project design.

4-2.18 Rest Areas

Reference: Chapter 16

1. Rest areas are usually included only on Interstate routes and other freeways.

2. The preliminary design of a rest area is developed by BDE and then transferred to the district for the preparation of plans on roadways and parking lots.

3. The design of the building, water supply, sanitary needs, and utilities is handled by the Capital Development Board, Bureau of Design and Environment, and district.

4. See Figure 16-1.A for details of which office is responsible for the various activities with rest areas.

4-2.19 Experimental Items

Reference: None

1. The designer coordinates their use with the Bureau of Materials and Physical Research.

2. The designer or Bureau of Materials and Physical Research usually develop the specifications for experimental items.

3. Experimental items may also be initiated by BDE, which then prepares the specifications and work plan. The designer incorporates these into the final construction plans.

4. The designer coordinates work plans with the Bureau of Materials and Physical Research.

5. The Bureau of Materials and Physical Research secures FHWA approval, if necessary.

6. The district may be requested to monitor the item in the field.

4-2.20 State and Federal Permits/Approvals

Reference: Chapter 28

1. The designer may need to coordinate with the US Army Corps of Engineers, US EPA, US Coast Guard, Illinois EPA, Illinois Division of Waterways, IDNR, the State Fire Marshall, etc.

2. The district Hydraulics Unit or district Environment Unit may become involved in any water-related permits.

3. Other permits or approvals on a project may include utility, driveway, and access permits.

4-2.21 Traffic Engineering

Reference: Chapters 56 and 57

1. The designer determines the placement of pavement markings. The district Bureau of Operations (District 1 Bureau of Traffic) reviews the plans.

2. The designer must consider the placement of signs in the design of a project.

3. Generally, traffic signs are not part of the design plans and are usually prepared as a separate set of plans by the district Bureau of Operations (District 1 Bureau of Traffic). On Interstate or other freeway projects, signs are included in the roadway contract. Also, mast-arm mounted traffic signs are always included in the roadway contract.

4. For signal plans, the following applies:

   - Warrants for signals are usually requested by the project study group when an Intersection Design Study (IDS) is submitted.
   - Signals could also be added to a project at the request of the district Bureau of Operations (District 1 Bureau of Traffic). All locations require an IDS submittal, except standard designs for temporary traffic signals according to the *Highway Standards*.
   - Traffic signal plans are usually prepared by the district Bureau of Operations (District 1 Bureau of Traffic) and added to the plans by the designer.

5. For highway lighting, the following applies:

   - See Chapter 56 for warrants on highway lighting.
   - In all districts, except District 1, BDE prepares the plans and specifications for lighting.
   - In District 1, the lighting plans are prepared by the district Bureau of Electrical Operations.
   - Where high-mast lighting is used, the designer must request soil borings.

6. For overhead signs, the following applies:

   - When standard designs do not apply, the Bureau of Bridges and Structures is involved in the structural design.
   - The district Bureau of Operations (District 1 Bureau of Traffic) usually prepares the message for each sign and selects its location.
   - Cantilever and truss-mounted signs require soil borings.

7. The designer must incorporate the proper highway standards for signing, signals, and lighting into the final construction plans.

4-2.22 Traffic Control Plans (TCP)

Reference: Chapters 13 and 55

1. A work zone traffic management plan should be prepared and included as a part of an approved Phase I report, designated as a Transportation Management Plan (TMP).

2. The designer prepares the TCP from the approved TMP.

3. The designer coordinates the TCP with the district Bureau of Operations and the Bureau of Safety Engineering.

4. The TCP should be on separate plan sheets.

5. The designer must also include the appropriate traffic control standards in the final construction plans.

4-2.23 Plan-in-Hand Field Inspection

Reference: Chapters 2, 3, and 66

1. The PIH is usually scheduled for all projects.

2. Appropriate individuals should be invited to the PIH (e.g., FHWA, BDE, district Project Implementation, district Operations, district Land Acquisition Section).

3. Interstate projects require coordination between BDE and FHWA.

4-2.24 Special Waste

Reference: Chapters 26 and 27

1. Initial investigations are accomplished by the district Environment Unit during the development of a Phase I study. Where special waste is determined to be present in property to be acquired, the results of these investigations should be provided to the district Land Acquisition Section so they may determine the appropriate rights or property interests to be acquired and the appropriate value of the land.

2. The designer incorporates any mitigation plans from the Phase I report, Environmental Assessment, or FEIS into the final construction plans.

3. The designer includes any necessary special provisions in the plans.

4. Specialized consultants are used to do sampling and testing and to develop specifications for disposal.

5. The designer should inform the project study group of any changes in the scope of work concerning special waste.

4-2.25 Coordination with Local Officials

Reference: Chapter 5

1. The designer coordinates agreements, letters of understanding, letters of intent, and plan reviews with the Project Support Section.

2. Early coordination is accomplished during Phase I by the project study group.

3. The designer must ensure that commitments are incorporated into the final construction plans from the Phase I report, Environmental Assessment, or FEIS.

4. The designer may be requested to incorporate items of local interest into the plans.

5. The designer ensures that details for the installation and/or improvement of city-owned utilities or traffic signals are coordinated as early as possible in the design process.

6. In urban areas, the designer should coordinate the traffic control plans with local officials.

7. The designer will need to obtain final plan review from local officials (e.g., traffic signals, drainage, landscaping), working through the Project Support Section.

8. The designer will need to identify and coordinate, with a city or town, encroachments from sign overhangs onto State right-of-way.

9. The designer may need to attend local meetings with city councils, school boards, drainage districts, or neighborhood groups.

10. The designer will address how emergency services will be accommodated during construction.

11. The designer will coordinate the pavement type selection and pavement design on non-State highways with the local government.

12. The designer will coordinate the type and selection of noise abatement with adjacent residents and the local government.

4-2.26 Right-of-Way

Reference: None

1. The project study group determines preliminary R/W needs and limits during Phase I. The group also identifies any specific R/W issues that could significantly affect the alignment, cost, or timeline of the project. Examples of such R/W issues would be billboards, cell towers, railroads, mobile home parks, cemeteries, low-income properties, and hazardous/special waste within property to be acquired.

2. Once final construction limits are decided, the designer develops R/W limits and forwards the limits to the district Land Acquisition Section.

3. The district Land Acquisition Section or a consultant prepares final R/W plats.

4. The district Land Acquisition Section informs the designer when all R/W is cleared.

4-2.27 Landscaping

Reference: Chapter 59

1. The district Bureau of Operations (District 1 Bureau of Maintenance) is responsible for landscaping on all projects.

2. The designer provides a set of preliminary plans to the Bureau of Operations for recommendations.

3. The Bureau of Operations marks up the set of plans, indicates the types of plants required, and notes which specifications or special provisions will be used.

4. The designer is responsible for including the information on the plan sheets and incorporating the remainder of the information into the project documents.

4-2.28 Coordination with FHWA

Reference: Chapter 31

1. Because IDOT is operating under a Project Oversight Agreement in accordance with Section 106 of Title 23 USC, FHWA is not involved in the design of most Federal-aid projects; FHWA is involved with most projects on the National Highway System. However, the design of Federal-aid projects is always discussed with FHWA at district Coordination Meetings.

2. When major changes are proposed to an approved Phase I report, the designer must coordinate these changes with the project study group. If a proposed change affects an approved FONSI or FEIS, FHWA should be briefed at a monthly Coordination Meeting on the extent of the change.

3. FHWA periodically checks the Department's compliance with approved reports through annual process reviews of completed construction projects. Therefore, the designer should not make any major changes to the final construction plans without discussing the proposals with the project study group.

4. The designer should invite FHWA to Plan-In-Hand Field Inspections on Interstate projects.

4-2.29 Project Cost Estimate

Reference: Chapter 65

1. The designer calculates quantities and prepares the summary of quantity sheets.

2. The district Estimator will input these quantities into the BDE Contract Management System (ECM).

3. The district Estimator estimates unit prices, prepares all forms, and submits these to the Estimating Unit in BDE.

4. Usually, the designer is not involved with determining unit prices.

4-2.30 Comparison to Estimated Program Costs

Reference: Chapter 65

1. Estimated program costs are initially prepared by the district Bureau of Programming for the annual program.

2. A revised program cost is tabulated in the Phase I report.

3. The designer must be aware of how changes and additions can affect the cost of a project.

4. The project study group must be notified when there are major changes in the scope of approved work in the Phase I report. The designer must request additional funds for a project through a programming change order.

5. The BDE Project Development Unit and the Office of Planning and Programming must concur in and approve all major cost changes to a project.

4-2.31 Specifications and Special Provisions

Reference: Chapter 66

1. The designer develops special provisions for the roadway items not covered by the *Standard Specifications*.

2. The designer assembles all District Recurring Special Provisions.

3. The designer reviews the Statewide Recurring Special Provisions and indicates the applicable ones on the Checklist.

4. This portion of the PS&E package is sent to the BDE Project Implementation Section.

4-2.32 R/W Purchased and All Permits Obtained

Reference: Chapters 2 and 3

1. The designer must check that all R/W has been purchased or is in quick-take proceedings.

2. All permits must be approved before a project can be placed on a bid letting.

4-2.33 Construction Contract Items and Bid Letting

Reference: Chapter 66

1. The designer uses a Checklist to ensure that all project items have been cleared.
2. The PS&E is submitted to BDE for final checking and processing of documents.
3. The Project Implementation Section authorizes the project to be placed in a bid letting.
4. The bid letting is held and the bids are tabulated. The district and low bidder are notified.

4-2.34 Pre-Construction Meeting

Reference: None

1. The designer typically attends the Pre-Construction Meeting.
2. The designer discusses commitments made and any unusual aspects of the project with the district Bureau of Project Implementation and the contractor.

4-2.35 NPDES/Erosion and Sediment Control

Reference: Chapter 41

1. The designer evaluates projects for proper implementation of Erosion and Sediment control Best Management Practices (BMPs).
2. The designer develops a fully completed Storm Water Pollution Prevention Plan (SWPPP) – BDE 2342.
3. The designer coordinates with the district Erosion and Sediment Control coordinator as needed.
4. The designer may attend project field reviews to determine how best to prevent future Incidences of Noncompliance (IONs).